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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/761,745

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EXAMINER

LEUNG, JENNIFER A

ART UNIT

PAPER NUMBER

1764

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/761,745	Applicant(s) JONES ET AL.	
	Examiner Jennifer A. Leung	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 59, 95, 102 and 103 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 59, 95, 102 and 103 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment submitted on November 28, 2006 has been received and carefully considered. Claims 1-58, 60-94, 96-101 and 104-108 have been cancelled. Claims 59, 95, 102 and 103 remain active.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 59 is rejected under 35 U.S.C. 102(b) as being anticipated by Cherish et al. (US 4,282,010).

Cherish et al. (FIG. 1-3; column 3, line 24 to column 4, line 21) discloses an apparatus comprising:

an inlet including a heating device (i.e., an inlet for supplying inlet nozzle **40** with a feedstock at "a temperature in the range of 500 °F"; see column 3, lines 39-45. Therefore, the inlet must inherently comprise a heating device, not shown, for heating the feedstock up to said temperature);

a feed introducing nozzle including a first generally tubular member (i.e., an inner tube **28**) defining a feedstock pathway, the tubular member **28** having a first end (i.e., adjacent to nozzle **40**) receiving the feedstock from the heating device and a second end protruding into or flush with an interior surface of the reactor unit (i.e., protruding into a fluidized bed reactor **10**),

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and an inner surface forming a conduit (i.e., as defined by the inner surface of the inner tube **28**), wherein at least a portion of the inner surface is formed of a commercial alloy comprising Incoloy 800 (see column 3, lines 34-36); and

a second larger diameter cylindrical tube (i.e., an outer tube **32**) oriented coaxially to the feed introduction nozzle thereby forming an outer cooling pathway around the feedstock pathway (i.e., an outer annulus **36** for flowing a cooling and fluidization booster medium supplied by inlet nozzle **44**; column 3, lines 54-59), wherein the cooling pathway **36** is closed-off at an end corresponding to the first end of the nozzle (see FIG. 2) so that cooling medium can flow toward the reactor unit **10** and exit the feed introduction nozzle within the reactor unit through a diluent outlet (i.e., via perforations **56**; FIG. 3).

Instant claim 59 structurally reads on the apparatus of Cherish et al.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 95, 102 and 103 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cherish et al. (US 4,282,010) in view of Roberge (Handbook of Corrosion Engineering).

Cherish et al. is silent as to whether another commercial alloy, such as one of the instantly claimed alloys, may be substituted for the Incoloy 800 used for forming the inner surface of the inner tube **28**. In any event, it would have been obvious for one of ordinary skill in the art at the time the invention was made to substitute another suitable, known commercial alloy for the metal alloy used in the apparatus of Cherish et al., on the basis of suitability for the intended use and absent showing any unexpected results thereof, because the Examiner takes

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Official Notice that the claimed commercial alloys are commonly employed in the chemical industry for constructing equipment that is exposed to conditions of high temperature and corrosion, as evidenced by Roberge (see TABLE 3.6). Furthermore, the substitution of known equivalent structures merely involves ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958).

Response to Arguments

4. Applicant's arguments filed November 28, 2006 have been fully considered but they are not persuasive.

On page 5 (last paragraph) Applicants argue that,

“... While Applicants note the Examiner's points on pages 7-8 of the Office Action regarding the remoteness of the heating, Applicants respectfully note that this is not the entirety of Applicants' argument—Applicants respectfully point out that, although the “[c]har fines and coals” of Cherish may be heated when they reach the nozzle, Cherish does not disclose or suggest that the inlet itself comprises a heating device. Applicants respectfully submit that a heating unit connected by one or more lines to the inlet is not inherent, as the “[c]har fines and coals” of Cherish may be heated at a point remote even to the inlet, in which case one or more heating devices would be neither inherent nor even necessary in Cherish...”

The Examiner respectfully disagrees and maintains that one or more heating devices must be inherent of the apparatus of Cherish, in order to enable the specifically disclosed supply of feed material to the inlet 40 of the feed introducing nozzle at a temperature in the range of 500 °F (see column 3, lines 40-45). The Examiner asserts that Applicants' argument that, “the “[c]har fines and coals” of Cherish may be heated at a point remote even to the inlet, in which case one or

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more heating devices would be neither inherent nor even necessary in Cherish,” would not make any sense to one having ordinary skill in the art. If the heating were conducted at such a remote location, e.g., a location remote even to the inlet to the apparatus, a feed material that was heated to 500 °F would no longer be at the heated temperature by the time the feed material arrived at the inlet to the apparatus or the inlet of the feed introduction nozzle. Due to the costliness of heating a feed material to such a high temperature, it would only make sense to include the at least one heating device as part of the apparatus, as close as possible to the intended application for the feed material, in order to minimize any reduction in temperature that may occur during the transport of the feed material from one location to another.

On page 6 (second paragraph), Applicants further argue that,

“Although Cherish has a cooling tube, it is a third tube that is situated around an intermediate tube, in which the intermediate tube transports oxidizing fluid such as air. The air transport tube is the second tube, and it is located around the inner feed tube, which feed char fins and transport gas to the reactor.”

In response, it is noted that claim 59 contains the transitional term “comprising”. This term is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. Although Cherish may include an intermediate tube, in addition to the inner feed tube and the outer cooling tube, the apparatus still structurally meets the claims. Also, the newly added recitation of, “the feedstock can be maintained at a temperature effective to minimize or eliminate the formation of metal catalyzed side reactions,” does not add any patentable weight to the apparatus claim, since the recitation of a temperature at which the cooling medium is to be maintained within the cooling pathway is considered a process limitation.

On page 6 (last paragraph), Applicants further argue that,

“... Cherish’s inlets/nozzles, which are taught to be exposed to “[c]har fines and coals” at temperatures in the neighborhood of 500 °F or less, do not have the same materials requirements, and thus are different in construction, or structurally different, from Applicants’ claimed oxygenate inlets/nozzles.”

The Examiner respectfully disagrees. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. In the instant case, the apparatus of Cherish et al. comprises a feed introduction nozzle formed of Incoloy 800, which has been recited as a suitable material of construction in claim 59. The apparatus of Cherish et al. is thus structurally capable of performing Applicants’ intended use.

In addition, it would have been obvious for one of ordinary skill in the art at the time the invention was made to substitute another suitable, known commercial alloy (such as one of the various commercial alloys recited in claims 95, 102 and 103) for the metal alloy used in the apparatus of Cherish et al., on the basis of suitability for the intended use, because the claimed commercial alloys are commonly employed in the chemical industry for constructing equipment that is exposed to conditions of high temperature and corrosion, as evidenced by Roberge (see TABLE 3.6). Furthermore, the substitution of known equivalent structures merely involves ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958). In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching,

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suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

* * *

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is (571) 272-1449. The examiner can normally be reached on 9:30 am - 5:30 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

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Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jennifer A. Leung
February 9, 2007



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Supervisory Patent Examiner
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